



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:

10/715,729

Confirmation No.: Unassigned

Applicant:

Sommadossi *et al.*

Filed:

November 17, 2003

TC/AU.:

Unassigned

Examiner:

Unassigned

Docket No.:

06171.105062 IDX 1023

Customer No.:

20786

Title:

2'-Branched Nucleosides and Flaviviridae Mutation

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

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The citation of information on the attached Form PTO-1449 is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. Copies of all references are enclosed. The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right the applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

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Respectfully submitted,

Sherry M. Knowles, Esq.  
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Office: (404)572-4600/ Fax: 404-572-5145

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Jennifer A. Williams

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Sheet	1	of	11	Attorney Docket Number	06171.105062 IDX 1023
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3420306 1.DOC

## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA	3,798,209	A	Witkowski, et al.	03-19-1974	
	AB	RE29,835		Witkowski et al.	11-14-1978	
	AC	4,522,811	A	Eppstein et al.	06-11-1985	
	AD	4,957,924	A	Beauchamp	09-18-1990	
	AE	5,149,794	A	Yatvin et al.	09-22-1992	
	AF	5,157,027	A	Biller et al.	10-20-1992	
	AG	5,194,654	A	Hostetler et al.	03-16-1993	
	AH	5,223,263	A	Hostetler et al.	06-29-1993	
	AI	5,256,641	A	Yatvin et al.	10-26-1993	
	AJ	5,372,808	A	Blatt et al.	12-13-1994	
	AK	5,411,947	A	Hostetler et al.	05-02-1995	
	AL	5,463,092	A	Hostetler et al.	10-31-1995	
	AM	5,543,389	A	Yatvin et al.	08-06-1996	
	AN	5,543,390	A	Yatvin et al.	08-06-1996	
	AO	5,543,391	A	Yatvin et al.	08-06-1996	
	AP	5,554,728	A	Basava et al.	09-10-1996	
	AQ	5,676,942	A	Testa et al.	10-14-1997	
	AR	5,738,845	A	Imakawa	04-14-1998	
	AS	5,830,455	A	Valtuena et al.	11-03-1998	
	AT	5,849,696	A	Chretien et al.	12-15-1998	
	AU	5,908,621	A	Glue et al.	06-01-1999	
	AV	5,928,636	A	Alber et al.	07-27-1999	
	AW	5,942,223	A	Bazer et al.	08-24-1999	
	AX	5,977,061	A	Holy et al.	11-02-1999	
	AY	5,980,884	A	Blatt et al.	11-09-1999	
	AZ	6,312,662		Erion et al.	11-06-2001	
	AAA	6,340,690	B1	Bachand et al.	01-22-2002	
	AAB	6,395,716	B1	Gosselin et al. (Novirio / Idenix)	05-28-2002	
	AAC	6,444,652	B1	Gosselin et al. (Novirio / Idenix)	09-03-2002	
	AAD	2002/0147160	A1	Bhat et al.	10-10-2002	
	AAE	2003/0008841	A1	Devos et al.	01-09-2003	
	AAF	2003/0028013	A1	Wang et al.	02-06-2003	

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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet **2** of **11***Complete if Known*Application Number **10/715,729**Filing Date **November 17, 2003**First Named Inventor **Sommadossi et al.**Group Art Unit **Unassigned**Examiner Name **Unassigned**Attorney Docket Number **06171.105062 IDX 1023**

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		Number	Kind Code <sup>2</sup> (if known)			
BA	2003/0050229	A1		Sommadossi et al.	03-13-2003	
BB	2003/0060400	A1		LaColla et al.	03-27-2003	
BC	2003/0083307	A1		Devos et al.	05-01-2003	

**FOREIGN PATENT DOCUMENTS**

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		Office <sup>3</sup>	Number	Kind Code <sup>2</sup> (if known)				
BD	DE	3,512,781	A1		Soc. Nat. Elf Aquitaine	10-17-1985		
BE	EP	0,180,276	B1		Stamicarbon B.V.	12-28-1988		
BF	EP	0,350,287	B1		Chimerix, Inc.	09-27-2000		
BG	EP	0,650,371	B1		State of Oregon	11-15-2000		
BH	FR	1,521,076	A		Merck & Co. Inc.	04-12-1968		
BI	FR	2,662,165	A		Univ. Paris Curie	11-22-1991		
BJ	GB	1,163,103	A		Merck & Co. Inc.	09-04-1969		
BK	GB	1,209,654	A		Merck & Co. Inc.	10-21-1970		
BL	WO	89/02733	A1		Univ. of California	04-06-1989		
BM	WO	90/00555	A1		Vical Inc.	01-25-1990		
BN	WO	91/16920	A1		Vical Inc.	11-14-1991		
BO	WO	91/18914	A1		Vical Inc.	12-12-1991		
BP	WO	91/19721	A1		Glazier	12-26-1991		
BQ	WO	93/00910	A1		Vical Inc.	01-21-1993		
BR	WO	94/26273	A1		Hostetler	11-24-1994		
BS	WO	96/15132	A1		Univ. of California	05-23-1996		
BT	WO	99/15194	A1		Schering Corporation	04-01-1999		
BU	WO	99/43691	A1		Emory U.; U.Ga.R.F.	02-09-1999		
BV	WO	99/45016	A2		Metabasis Therapeutics.	09-10-1999		
BW	WO	99/59621	A1		Schering Corporation	11-25-1999		
BX	WO	99/64016	A1		Hoffman-La Roche AG	12-16-1999		
BY	WO	00/09531	A2		Novirio (Idenix); CNRS	02-24-2000		
BZ	WO	00/24355	A1		Smith & Nephew Kinetic	05-04-2000		
BAA	WO	00/37110	A2&3		Schering Corporation	06-29-2000		
BAB	WO	00/52015	A2		Metabasis Therapeutics	09-08-2000		

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Substitute for form 1449A/PTO				<i>Complete if Known</i>	
				Application Number	10/715,729
				Filing Date	November 17, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	3	of	11	Attorney Docket Number	06171.105062 IDX 1023

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		Office <sup>3</sup>	Number			
						T <sup>6</sup>
CA	WO	01/18013	A1	Metabasis Therapeutics	03-15-2001	
CB	WO	01/32153	A2	Biochem Pharma	05-10-2001	
CC	WO	01/47935	A2&3	Metabasis Therapeutics	07-05-2001	
CD	WO	01/60315	A2	Biochem Pharma	08-23-2001	
CE	WO	01/79246	A2	Pharmasset	10-25-2001	
CF	WO	01/81359	A1	Schering Corporation	11-01-2001	
CG	WO	01/90121	A2	Novirio Pharm. (Idenix)	11-29-2001	
CH	WO	01/91737	A2	Novirio Pharm. (Idenix)	12-06-2001	
CI	WO	01/92282	A2	Novirio Pharm. (Idenix)	12-06-2001	
CJ	WO	01/96353	A2	Novirio Pharm. (Idenix)	12-20-2001	
CK	WO	02/18404	A2	F. Hoffmann-La Roche	03-07-2002	
CL	WO	02/32414	A2&3	Schering Corporation	04-25-2002	
CM	WO	02/32920	A2	Pharmasset Limited	04-25-2002	
CN	WO	02/48165	A2	Pharmasset Limited	06-20-2002	
CO	WO	02/057287	A2	Merck & Co. Inc.	07-25-2002	
CP	WO	02/057425	A2	Merck & Co. Inc.	07-25-2002	
CQ	WO	02/070533	A2	Pharmasset Limited	09-12-2002	
CR	WO	02/094289	A1	F. Hoffmann-La Roche	11-28-2002	
CS	WO	02/100415	A2	F. Hoffmann-La Roche	12-19-2002	
CT	WO	03/024461	A1	Schering Corporation	03-27-2003	
CU	WO	03/026589	A2	Idenix; CNRS; U. Montp.	04-03-2003	
CV	WO	03/026675	A1	Idenix; CNRS; U. Montp.	04-03-2003	
CW	WO	03/061385	A1	Ribarpharm	07-31-2003	
CX	WO	03/062255	A2	Ribarpharm	07-31-2003	
CY	WO	04/002422	A2	Idenix; Univ.D.S.Cagliari	01-08-2004	
CZ	WO	04/002999	A2	Idenix; Univ.D.S.Cagliari	01-08-2004	
CAA	WO	04/003138	A2	Merck; Isis	01-08-2004	
CAB	WO	04/009020	A2	Merck; Isis	01-29-2004	

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				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	4	of	11	Attorney Docket Number	06171.105062 IDX 1023

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## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	DA	ALT, M., <i>et al.</i> , "Core specific antisense phosphorothioate oligodeoxynucleotides as potent and specific inhibitors of hepatitis C viral translation," <i>Archives of Virology</i> , 142:589-599 (1997).	
	DB	ALT, M., <i>et al.</i> , "Specific inhibition of hepatitis C viral gene expression by antisense phosphorothioate oligodeoxynucleotides," <i>Hepatology</i> , 22:707-717 (1995).	
	DC	ALTMANN <i>et al.</i> , "The synthesis of 1'-methyl carbocyclic thymidine and its effect on nucleic acid duplex stability," <i>Synlett, Thieme Verlag, Stuttgart, De</i> , 10:853-855 (1994).	
	DD	BAGINSKI, S. G. <i>et al.</i> , "Mechanism of action of a pestivirus antiviral compound," <i>PNAS USA</i> , 97(14):7981-7986 (2000).	
	DE	BATTAGLIA, A.M. <i>et al.</i> , "Combination Therapy with Interferon and Ribavirin in the Treatment of Chronic Hepatitis C Infection", <i>Ann. Pharmacother</i> , 34:487-494 (2000).	
	DF	BEIGELMAN, L.N., <i>et al.</i> , "Epimerization during the acetolysis of 3-O-acetyl-5-O-benzoyl-1,2-O-isopropylidene-3-C-methyl- $\alpha$ ,D-ribofuranose. Synthesis of 3'-C-methylnucleosides with the $\beta$ -D-ribo- and $\alpha$ -D-arabino configurations," <i>Carbohydrate Research</i> , 181:77-88 (1988).	
	DG	BEIGELMAN, L.N., <i>et al.</i> , "A general method for synthesis of 3'-C-alkylnucleosides," <i>Nucleic Acids Symp. Ser.</i> , 9:115-118 (1981).	
	DH	BERENGUER, M., <i>et al.</i> , "Hepatitis B and C viruses: Molecular identification and targeted antiviral therapies," <i>Proceedings of the Association of American Physicians</i> , 110(2), 98-112 (1998).	
	DI	BERENGUER, M. <i>et al.</i> , "Hepatitis C virus in the transplant setting", <i>Antivir. Ther.</i> , 3 (Suppl 3):125-136 (1998).	
	DJ	BERMAN, E., <i>et al.</i> , "Synergistic cytotoxic effect of azidothymidine and recombinant interferon alpha on normal human bone marrow progenitor cells," <i>Blood</i> , 74(4):1281-1286 (1989)	
	DK	BHAT et al. (Oral Session V, Hepatitis C Virus, Flaviviridae, 2003 (Oral Session V, Hepatitis C Virus, Flaviviridae; 16 <sup>th</sup> International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.); p A75).	
	DL	BROWNE, M.J., <i>et al.</i> , "2',3'-didehydro-3'-deoxythymidine (d4T) in patients with AIDS or AIDS-Related Complex: A Phase I trial," <i>J. Infect. Dis.</i> , 167(1):21-29 (1993).	
	DM	COLACINO, J. M., "Review article: Mechanisms for the anti-hepatitis B virus activity and mitochondrial toxicity of fialuridine (FIAU)," <i>Antiviral Res.</i> , 29(2-3): 125-39 (1996).	
	DN	CUI, L., <i>et al.</i> , "Cellular and molecular events leading to mitochondrial toxicity of 1-(2-deoxy-2-fluoro-1- $\beta$ -D-arabinofuranosyl)-5-iodouracil in human liver cells," <i>J. Clin. Invest.</i> , 95:555-563 (1995).	
	DO	CZERNECKI, S., <i>et al.</i> , "Synthesis of various 3'-branched 2',3'-unsaturated pyrimidine nucleosides as potential anti-HIV agents," <i>J. Org. Chem.</i> , 57:7325-7328 (1992).	

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	EA	DAVIS, G.L., "Current therapy for chronic Hepatitis C," <i>Gastroenterology</i> 118:S104-S114 (2000).	
	EB	De FRANCESCO, R., et al., "Approaching a new era for hepatitis C virus therapy: Inhibitors of the NS3-4A serine protease and the NS5B RNA-dependent RNA polymerase," <i>Antiviral Research</i> , 58:1-16 (2003).	
	EC	De LOMBAERT, S., et al., "N-Phosphonomethyl dipeptides and their phosphonate prodrugs, a new generation of neutral endopeptidase (NEP, EC 3.4.24.11) inhibitors," <i>J. Med. Chem.</i> , 37:498-511 (1994).	
	ED	DORNSIFE, R. E. et al., "In Vitro Potency of Inhibition by Antiviral Drugs of Hematopoietic Progenitor Colony Formation Correlates with Exposure at Hemotoxic Levels in Human Immunodeficiency Virus-Positive Humans" <i>Antimicrob. Agents Chemother.</i> 40(2):514-519 (1996)	
	EE	DYMOCK, B.W., et al., "Review: Novel approaches to the treatment of hepatitis C virus infection," <i>Antiviral Chemistry &amp; Chemotherapy</i> , 11(2):79-96 (2000).	
	EF	ELDRUP et al. (Oral Session V, Hepatitis C Virus, Flaviviridae; 16 <sup>th</sup> International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.).	
	EG	FAIVRE-BUET, V., et al, "Synthesis of 1'-deoxypsicofuranosyl-deoxynucleosides as potential anti-HIV agents," <i>Nucleosides &amp; Nucleotides</i> , 11(7):1411-1424 (1992).	
	EH	FARKAS, J., et al., "Nucleic acid components and their analogues. XCIV. Synthesis of 6-amino-9-(1-deoxy-β-D-psicofuranosyl)purine", <i>Collect. Czech. Chem. Commun.</i> 32:2663-2667 (1967).	
	EI	FARKAS, J., et al., "Nucleic acid components and their analogues. LXXIX. Synthesis of methyl 1-deoxy-D-psicofuranosides substituted at C <sub>(1)</sub> with halo atoms or a mercapto group," <i>Collect. Czech. Chem. Commun.</i> , 31:1535-1543 (1996).	
	EJ	FARQUHAR, D., et al., "Synthesis and biological evaluation of neutral derivatives of 3-fluoro-2'-deoxyuridine 5'-phosphate," <i>J. Med. Chem.</i> , 26: 1153-1158 (1983).	
	EK	FARQUHAR, D., et al., "Synthesis and biological evaluation of 9-[5'-(2-oxo-1,3,2-oxazaphosphorinan-2-yl)-β-D-arabinosyl]adenine and 9-[5'-(2-oxo-1,3,2-dioxazaphosphorinan-2-yl)-β-D-arabinosyl]adenine: Potential neutral precursors of 9-[β-D-arabinofuranosyl]adenine 5'-monophosphate," <i>J. Med. Chem.</i> , 28:1358-1361 (1985).	
	EL	FEDOROV, I.I., et al, "3'-C-Branched 2'-deoxy-5-methyluridines: Synthesis, enzyme inhibition, and antiviral properties," <i>J. Med. Chem.</i> , 35(24):4567-4575 (1992).	
	EM	FERRARI R., et al., "Characterization of soluble hepatitis C virus RNA-dependent RNA polymerase expressed in <i>Escherichia coli</i> ," <i>Journal of Virology</i> , 73(2), 1649-1654 (1999).	

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Sheet	6	of	11	Attorney Docket Number	06171.105062 IDX 1023
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3420306 1.DOC

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	FA	FISCHL, M.A., et al., "Zalcitabine compared with zidovudine in patients with advanced HIV-1 infection who received previous zidovudine therapy," <i>Ann. Intern. Med.</i> , 18(10):762-769 (1993).	
	FB	FRANCHETTI, P., et al., "2'-C-Methyl analogues of selective adenosine receptor agonists: synthesis and binding studies," <i>J. Med. Chem.</i> , 41(10):1708-1715 (1998).	
	FC	FREED, J.J., et al., "Evidence for acyloxymethyl esters of pyrimidine 5'-deoxyribonucleotides as extracellular sources of active 5'-deoxyribonucleotides in cultured cells," <i>Biochemical Pharmacology</i> , 38:3193-3198 (1989).	
	FD	GALDERISI, U., et al., "Antisense oligonucleotides as therapeutic agents," <i>Journal of Cellular Physiology</i> , 181(2):251-257 (November 1999).	
	FE	GROUILLER, A., et al., "Novel p-toluenesulfonylation and thionocarbonylation of unprotected thymine nucleosides," <i>Synlett</i> , 1993, 221-222 (March 1993).	
	FF	GUNIC, E., et al., "Synthesis and cytotoxicity of 4'-C-and 5'-C-substituted Toyocamycins," <i>Bioorg. Med. Chem.</i> , 9:163-170 (2001).	
	FG	HARAGUCHI, K., et al., "Preparation and reactions of 2'- and 3'- vinyl bromides of uracil nucleosides: Versatile synthons for anti-HIV agents," <i>Tetrahedron Letters</i> , 32(28):3391-3394 (1991).	
	FH	HARAGUCHI, K., et al., "Stereoselective synthesis of 1'-C-branched uracil nucleosides from uridine," <i>Nucleosides &amp; Nucleotides</i> , 14(3-5):417-420 (1995).	
	FI	HARRY-O'KURU, R.E., et al., "A short, flexible route toward 2'-C-branched ribonucleosides", <i>J.Org. Chem.</i> , 62:1754-1759 (1997). (Scheme 11).	
	FJ	HARRY-O'KURU, R.E., et al., "2'-C-Alkylribonucleosides: Design, synthesis, and conformation," <i>Nucleosides &amp; Nucleotides</i> , 16(7-9):1457-1460 (1997).	
	FK	HATTORI, H., et al., "Nucleosides and nucleotides. 175. Structural requirements of the sugar moiety for the antitumor activities of new nucleoside antimetabolites, 1-(3-C-ethynyl-b-D-ribo-pentofuranosyl)cytosine and -uracil," <i>J. Med. Chem.</i> , 41:2892-2902 (1998).	
	FL	HOSTETLER, K.Y., et al., "Synthesis and antiretroviral activity of phospholipids analogs of azidothymidine and other antiviral nucleosides," <i>J. Biol. Chem.</i> , 265:6112-6115 (1990)	
	FM	HOSTETLER, K.Y., et al., "Greatly enhanced inhibition of Human Immunodeficiency Virus Type I replication in CEM and HT4-6C cells by 3'-deoxythymidine diphosphate dimyristoylglycerol, a lipid prodrug of 3'-deoxythymidine," <i>Antimicrob. Agents Chemother.</i> , 36:2025-2029 (September 1992).	
	FN	HUNSTON, R.N., et al., "Synthesis and biological properties of some cyclic phosphotriesters derived from 2'-deoxy-5-fluorouridine," <i>J. Med. Chem.</i> 27:440-444 (1984).	

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				Application Number	10/715,729
				Filing Date	November 17, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	7	of	11	Attorney Docket Number	06171.105062 IDX 1023

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	GA	HREBABECKY, H., <i>et al.</i> , "Nucleic acid components and their analogues. CXLIX. Synthesis of pyrimidine nucleosides derived from 1-deoxy-D-psicose," <i>Collect. Czech. Chem. Commun.</i> , 37:2059-2065 (1972).	
	GB	HREBABECKY, H., <i>et al.</i> , "Synthesis of 7- and 9β-D-psicofuranosylguanine and their 1'-deoxy derivatives," <i>Collect. Czech. Chem. Commun.</i> , 39:2115-2123 (1974).	
	GC	IINO, T., <i>et al.</i> , "Nucleosides and nucleotides. 139. Stereoselective synthesis of (2'S)-2'-C-alkyl-2'-deoxyuridines," <i>Nucleosides and Nucleotides</i> , 15(1-3):169-181 (1996).	
	GD	ITOH, Y., <i>et al.</i> , "Divergent and stereocontrolled approach to the synthesis of uracil nucleosides branched at the anomeric position," <i>J. Org. Chem.</i> , 60(3):656-662 (1995).	
	GE	JOHNSON, C.R., <i>et al.</i> , "3'-C-Trifluoromethyl ribonucleosides," <i>Nucleosides &amp; Nucleotides</i> , 14(1&2):185-194 (1995).	
	GF	JONES, G. H.; Moffatt, J. G., <i>Methods in Carbohydrate Chemistry</i> ; Whisler, R. L. and Moffatt, J. L. Eds; Academic Press: New York, 1972; 315-322	
	GG	JONES, G. H., <i>et al.</i> , "4'-substituted nucleosides. 5. Hydroxymethylation of nucleoside 5'-aldehydes," <i>J. Org. Chem.</i> , 44:1309-1317 (1979).	
	GH	KAWANA, M., <i>et al.</i> , "The deoxygenation of tosylated adenosine derivatives with Grignard reagents," <i>Nucleic Acids Symp. Ser.</i> , 17:37-40 (1986).	
	GI	KHAMNEI, S., "Neighboring group catalysis in the design of nucleotide prodrugs," <i>J. Med. Chem.</i> , 39:4109-4115 (1996).	
	GJ	KUCERA, L.S., <i>et al.</i> , "Novel membrane-interactive ether lipid analogs that inhibit infectious HIV-1 production and induce defective virus formation," <i>AIDS Res. Hum. Retro Viruses</i> , 6:491-501 (1990).	
	GK	KURTZBERG J., <i>et al.</i> , "Differential toxicity of carbovir and AZT to human bone marrow hematopoietic progenitor cells in vitro," <i>Exp. Hematol.</i> , 18(10):1094-1096 (1990).	
	GL	LAI, V.C.H., <i>et al.</i> , "Mutational analysis of bovine viral diarrhea virus RNA-dependent RNA polymerase," <i>J. Virol.</i> , 73(12):10129-10136 (December 1999).	
	GM	LAVAIRE, S., <i>et al.</i> , "3'-Deoxy-3'-C-trifluoromethyl nucleosides: Synthesis and antiviral evaluation," <i>Nucleosides &amp; Nucleotides</i> , 17(12):2267-2280 (1998).	
	GN	LEONARD, N. J., <i>et al.</i> , "5-Amino-5-deoxyribose derivatives. Synthesis and use in the preparation of "reversed" nucleosides" <i>J. Heterocycl. Chem.</i> , 3:485-489 (December 1966).	
	GO	LERZA, R, <i>et al.</i> , "In vitro synergistic inhibition of human bone marrow hemopoietic progenitor growth by a 3'-azido-3'-deoxy-thymidine, 2',3'-dideoxycytidine combination," <i>Exp. Hematol.</i> , 25(3):252-255 (1997).	

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Sheet **8** of **11***Complete if Known*

Application Number	<b>10/715,729</b>
Filing Date	<b>November 17, 2003</b>
First Named Inventor	<b>Sommadossi et al.</b>
Group Art Unit	<b>Unassigned</b>
Examiner Name	<b>Unassigned</b>
Attorney Docket Number	<b>06171.105062 IDX 1023</b>

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	HA	LEWIS W, et al., "Zidovudine induces molecular, biochemical, and ultrastructural changes in rat skeletal muscle mitochondria," <i>J. Clin. Invest.</i> , 89(4):1354-1360 (1992).	
	HB	LEWIS, L. D., et al., "Ultrastructural changes associated with reduced mitochondrial DNA and impaired mitochondrial function in the presence of 2'3'-dideoxycytidine," <i>Antimicrob. Agents Chemother.</i> , 36(9):2061-2065 (1992).	
	HC	LEWIS, W., et al., "Fialuridine and its metabolites inhibit DNA polymerase γ at sites of multiple adjacent analog incorporation, decrease mtDNA abundance, and cause mitochondrial structural defects in cultured hepatoblasts," <i>Proceedings of the National Academy of Sciences, USA</i> , 93(8): 3592-7 (1996).	
	HD	LEYSEN, P. et al., "Perspectives for the treatment of infections with Flaviviridae," <i>Clinical Microbiology Reviews</i> (Washington, D.C.), 13(1):67-82 (January 2000).	
	HE	LOHMANN V., et al., "Biochemical and kinetic analyses of NS5B RNA-dependent RNA polymerase of the Hepatitis C virus," <i>Virology</i> , 249, 108-118 (1998).	
	HF	LOHMANN, V., et al., "Replication of subgenomic hepatitis C virus RNAs in a hepatoma cell line," <i>Science</i> , 285(5424):110-113 (July 2, 1999).	
	HG	LUH, T.-Y., et al., "A convenient method for the selective esterification of amino-alcohols," <i>Synthetic Communications</i> , 8(5):327-333 (1978).	
	HH	MARTIN, J.A., et al., "Synthesis and antiviral activity of monofluoro and difluoro analogues of pyrimidine deoxyribonucleosides against human immunodeficiency virus (HIV-1)", <i>J. Med. Chem.</i> , 33(8):2137-2145 (1990).	
	HI	MARTIN, X., et al., "Intramolecular hydrogen bonding in primary hydroxyl of thymine 1-(1-deoxy-β-D-psicofuranosyl) nucleoside," <i>Tetrahedron</i> , 50(22):6689-6694 (1994).	
	HJ	MATSUDA, A., et al., "Radical deoxygenation of tert-alcohols in 2'-branched-chain sugar pyrimidine nucleosides: Synthesis and antileukemic activity of 2'-deoxy-2'-(S)-methylcytidine," <i>Chem. Pharm. Bull.</i> , 35(9):3967-3970 (1987).	
	HK	MATSUDA, A., et al., "Alkyl addition reaction of pyrimidine 2'-ketonucleosides: Synthesis of 2'-branched-chain sugar pyrimidine nucleosides (Nucleosides and Nucleotides. LXXXI)," <i>Chem. Pharm. Bull.</i> , 36(3):945-953 (1988).	
	HL	MATSUDA, A., et al., "Nucleosides and Nucleotides. 94. Radical deoxygenation of tert-alcohols in 1-(2-C-alkylpentofuranosyl)pyrimidines : Synthesis of (2'S)-2'-deoxy-2'-C-methylcytidine, an antileukemic nucleoside," <i>J. Med. Chem.</i> , 34:234-239 (1991).	
	HM	MATSUDA, A., et al., "Nucleosides and Nucleotides. 104. Radical and palladium-catalyzed deoxygenation of the allylic alcohol systems in the sugar moiety of pyrimidine nucleosides," <i>Nucleosides &amp; Nucleotides</i> , 11(2/4):197-226 (1992).	

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Sheet **9** of **11***Complete if Known*

Application Number	<b>10/715,729</b>
Filing Date	<b>November 17, 2003</b>
First Named Inventor	<b>Sommadossi et al.</b>
Group Art Unit	<b>Unassigned</b>
Examiner Name	<b>Unassigned</b>
Attorney Docket Number	<b>06171.105062 IDX 1023</b>

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	IA	McCORMICK, J., et al., "Structure and total synthesis of HF-7, a neuroactive glyconucleoside disulfate from the funnel-web spide <i>Hololena curta</i> ," <i>J. Am. Chem. Soc.</i> , 121(24), 5661-5665 (1999).	
	IB	MCKENZIE, R., et al., "Hepatic failure and lactic acidosis due to fialuridine (FIAU), an investigational nucleoside analogue for chronic hepatitis B," <i>N. Engl. J. Med.</i> , 333(17):1099-1105 (1995).	
	IC	MEDINA, D. J., et al., "Comparison of mitochondrial morphology, mitochondrial DNA content, and cell viability in cultured cells treated with three anti-Human Immunodeficiency Virus dideoxynucleosides," <i>Antimicrob. Agents Chemother.</i> , 38(8):1824-8 (1994).	
	ID	MEIER, C., et al., "Cyclic saligenyl phosphotriesters of 2',3'-dideoxy-2',3'-didehydrothymidine (d4T) – A new pro-nucleic approach." <i>Bioorganic &amp; Med. Chem. Letters</i> 7(2):99-104 (1997).	
	IE	MEYER, R.B., Jr., et al., "2'-O-Acyl-6-thioinosine cyclic 3',5'-phosphates as prodrugs of thioinosinic acid," <i>J. Med. Chem.</i> 22: 811-815 (1979).	
	IF	MIKHAILOV, S.N., et al., "Synthesis and properties of 3'C-methylnucleosides and their phosphoric esters," <i>Carbohydrate Research</i> , 124:75-96 (1983).	
	IG	MIKHAILOV, S.N., et al., "Substrate properties of C'-methylnucleoside and C'-methyl-2'-deoxynucleoside 5'-triphosphates in RNA and DNA synthesis reactions catalysed by RNA and DNA polymerases," <i>Nucleosides &amp; Nucleotides</i> , 10(1-3):339-343 (1991).	
	IH	MIKHAILOV, S.N., et al., "Hydrolysis of 2'- and 3'-C-methyluridine 2'c3'-cyclic monophosphates and interconversion and dephosphorylation of the resulting 2'- and 3'-monophosphates: Comparison with the reactions of uridine monophosphates," <i>J. Org. Chem.</i> , 57 (15):4122-4126 (1992).	
	II	NEIDLEIN, R., et al., "Mild preparation of 1-benzyl oxyiminoalkyl phosphonic dichlorides: Application to the synthesis of cyclic phosphonic diesters and cyclic monoester amides," <i>Heterocycles</i> 35:1185-1203 (1993).	
	IJ	NUTT, R.F., et al., "Branched-chain sugar nucleosides. III. 3'-C-methyladenine", <i>J. Org. Chem.</i> , 33:1789-1795 (1968).	
	IK	OIVANEN, M., et al., "Additional evidence for the exceptional mechanism of the acid-catalyzed hydrolysis of 4-oxopyrimidine nucleosides: Hydrolysis of 1-(1-alkoxyalkyl)uracils, seconucleosides, 3'-C-alkyl nucleosides and nucleoside 3',5'-cyclic monophosphates," <i>J. Chem. Soc. Perkin Trans. 2</i> , 1994:309-314 (1994).	
	IL	ONG, S.P., et al., "Synthesis of 3'-C-methyladenosine and 3'-C-methyluridine diphosphates and their interaction with the ribonucleoside diphosphate reductase from <i>Corynebacterium nephridii</i> ," <i>Biochemistry</i> , 31(45):11210-11215 (1992).	
	IM	Oral Session V, Hepatitis C Virus, Flaviviridae; 16 <sup>th</sup> International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.) p A75-77.	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/715,729
Sheet	10	of	11	Filing Date	November 17, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
				Attorney Docket Number	06171.105062 IDX 1023

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	JA	PAN-ZHOU, X-R, <i>et al.</i> , "Differential effects of antiretroviral nucleoside analogs on mitochondrial function in HepG2 cells," <i>Antimicrob. Agents Chemother.</i> , 44:496-503 (2000).			T <sup>6</sup>
	JB	PIANTADOSI, C., <i>et al.</i> , "Synthesis and evaluation of novel ether lipid nucleoside conjugates for anti-HIV-1 activity," <i>J. Med. Chem.</i> 34:1408-1414 (1991).			
	JC	RICHMAN, D.D., <i>et al.</i> , "The toxicity of azidothymidine (AZT) in the treatment of patients with AIDS and AIDS-Related Complex," <i>N. Engl. J. Med.</i> , 317(4):192-197 (1987).			
	JD	ROSENTHAL, A., <i>et al.</i> , "Branched-chain sugar nucleosides. Synthesis of 3'-C-ethyl (and 3'-C-butyl)uridine" <i>Carbohydrate Research</i> , 79:235-242 (1980).			
	JE	SAMANO, V., <i>et al.</i> , "Synthesis and radical-induced ring-opening reactions of 2'-deoxyadenosine-2'-spirocyclopropane and its uridine analogue. Mechanistic probe for ribonucleotide reductases," <i>J. Am. Chem. Soc.</i> , 114:4007-4008 (1992).			
	JF	SAMANO, V., <i>et al.</i> , "Nucleic acid related compounds. 77. 2',3'-Didehydro-2',3'-dideoxy-2'(and 3')-methylnucleosides via [3,3]-sigmatropic rearrangements of 2'(and 3')-methylene-3'(and 2')-O-thiocarbonyl derivatives and radical reduction of a 2'-chloro-3'-methylene analogue," <i>Can. J. Chem.</i> , 71:186-191 (1993).			
	JG	SCHMIT, C., <i>et al.</i> , "The effects of 2'- and 3'-alkyl substituents on oligonucleotide hybridization and stability," <i>Biorganic &amp; Medicinal Chemistry Letters</i> , 4(16):1969-1974 (1994).			
	JH	SERAFINOWSKI, P.J., <i>et al.</i> , "New method for the preparation of some 2'- and 3'-trifluoromethyl-2',3'-dideoxyuridine derivatives," <i>Tetrahedron</i> (Elsevier Science Publishers), 56(2):333-339 (1999).			
	JI	SHARMA, P.K., <i>et al.</i> , "Synthesis of 3'-trifluoromethyl nucleosides as potential antiviral agents," <i>Nucleosides, Nucleotides and Nucleic Acids</i> , 19(4):757-774 (2000).			
	JJ	SOMMADOSSI J-P, <i>et al.</i> , "Toxicity of 3'-azido-3'-deoxythymidine and 9-(1,3-dihydroxy-2-propoxymethyl)guanine for normal human hematopoietic progenitor cells in vitro" <i>Antimicrobial Agents and Chemotherapy</i> , 31:452-454 (1987).			
	JK	SOMMADOSSI J-P, <i>et al.</i> , "Comparison of cytotoxicity of the (-)- and (+)-enantiomer of 2',3'-dideoxy-3'-thiacytidine in normal human bone marrow progenitor cells" <i>Biochemical Pharmacology</i> , 44:1921-1925 (1992).			
	JL	STARRETT, J.E.Jr., <i>et al.</i> , "Synthesis, oral bioavailability determination, and <i>in vitro</i> evaluation of prodrugs of the antiviral agents 9-(2-(phosphonomethoxy)ethyl]adenine (PMEA)," <i>J. Med. Chem.</i> 37: 1857-1864 (1994).			
	JM	TRITSCH, D., <i>et al.</i> , "3'-β-ethynyl and 2'-deoxy-3'-β-ethynyl adenosines: First 3'-β-branched adenosines substrates of adenosine deaminase," <i>Biorganic &amp; Medicinal Chemistry Letters</i> , 10:139-141 (2000).			

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Substitute for form 1449A/PTO				<i>Complete if Known</i>	
				Application Number	10/715,729
				Filing Date	November 17, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
Sheet	11	of	11	Attorney Docket Number	06171.105062 IDX 1023

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**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. <sup>T<sup>6</sup></sup>
	KA	TUNITSKAYA, V.L., <i>et al.</i> , "Substrate properties of C'-methyl UTP derivatives in T7 RNA polymerase reactions. Evidence for N-type NTP conformation," <i>FEBS Letters</i> , 400:263-266 (1997).
	KB	USUI, H., <i>et al.</i> , "Synthesis of 2'-deoxy-8,2'-ethanoadenosine and 3'-deoxy-8,3'-ethanoadenosine (Nucleosides and Nucleotides. LXIV)," <i>Chem. Pharm. Bull.</i> , 34(1):15-23 (1986).
	KC	VASSILEV, V.B., <i>et al.</i> , "Bovine diarrhea virus induced apoptosis correlates with increased intracellular viral RNA accumulation," <i>Virus Res.</i> , 69(2), 95-107 (2000).
	KD	WALCZAK, K., <i>et al.</i> , "Synthesis of 1-(3-alkyl-2,3-dideoxy-D-pentofuranosyl)uracils with potential anti-HIV activity," <i>Acta Chemica Scand.</i> , 45:930-934 (1991).
	KE	WALTON, E., <i>et al.</i> , "Branched-chain sugar nucleosides. V. Synthesis and antiviral properties of several branched-chain sugar nucleotides," <i>J. Med. Chem.</i> , 12:306-309 (1969).
	KF	WEINBERG, R.S., <i>et al.</i> , "Effect of antiviral drugs and hematopoietic growth factors on <i>in vitro</i> erythropoiesis," <i>Mt. Sinai J. Med.</i> 1998;65(1):5-13.
	KG	WOLFE, M.S., <i>et al.</i> , "A concise synthesis of 2'-C-methylribonucleosides," <i>Tetrahedron Letters</i> , 36(42):7611-7614 (1995).
	KH	WU, J.-C., <i>et al.</i> , "A new stereospecific synthesis of [3.1.0] bicyclic cyclopropano analog of 2',3'-dideoxyuridine," <i>Tetrahedron</i> , 46(7):2587-2592 (1990).
	KI	YARCHOAN, R., <i>et al.</i> , "Long-term toxicity / activity profile of 2',3'-dideoxyinosine in AIDS or AIDS-related complex," <i>The Lancet</i> , 336(8714):526-529 (1990).
	KJ	YOSHIDA Y, <i>et al.</i> , "Reversal of azidothymidine-induced bone marrow suppression by 2',3'-dideoxythymidine as studied by hemopoietic clonal culture," <i>AIDS Res. Hum. Retroviruses</i> , 6(7):929-932 (1990).
	KK	ZON, G., "Cyclophosphamide Analogues," Chapter 4 in <i>Progress in Medicinal Chemistry</i> , Vol. 19, G.P. Ellis and G.B. West, Eds., pp. 205-246 (1982).

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